## Fig. 1

## Parallel Fan Powered VAV Terminal w/ heat Delivery Book

MC	DEL VERIFICATION		Unit Tag (FPVAV)
			VAV A-4
1.	Manufacturer	Submitted	
		Delivered	
2.	Model Number	Submitted	
		Delivered	
3.	Max/Min Airflow (cfm)	Submitted	1
		Delivered	1
4.	Serial Number	Submitted	N/A
•		Delivered	
5.	Inlet Diameter, inches	Submitted	
	•	Delivered	
6.	Heating MBH/gpm	Submitted	
٥.	Trousing menagem	Delivered	
7	Ean Downs/Conned		
7.	Fan Power/Speed, (hp/rpm)	Submitted	1
		Delivered	/
8.	Total Static Pressure, in w.g.	Submitted	
		Delivered	
PH	YSICAL CHECKS		
1.	The box is free of physical of	damage	yes / no
2.	The air openings to the box with durable plastic	are sealed	yes / no
3.	The airflow sensing tubing i	s plugged	yes / no
4.	The local electrical disconne	ect is in the	yes / no
PH	proper location		
5.	The enclosure for the DDC	control nanal	V00 ( 50
J.	is in the proper location	control paner	yes / no
6.	The grommets for the airflow tubing are secure	w sensing	yes / no
7.	Unit tags affixed	7 7 7 8 8 1	yes / no
8.	Manufacturer's ratings read	able/accurate	yes / no
Tra			
	cking Cards		

"No" Responses:

ltem	Reason for "No"	í	Item

#### [Fill in Tag #] Parallel Fan Powered VAV Terminal w/ heat # \_\_\_\_ Hanging [fill in box number] Instructions: Step 1: Circle Yes or No, or fill in with requested information. Step 2: Explain all "No" responses at the bottom of the card. Step 3: Attach bar code sticker from equipment when finished, return card to your Field Supervisor. Response Item Yes Unit identification tag easily visible Yes No Unit is individually supported from structure and not from adjacent ductwork 2 Yes No Adequate clearance around control box fro maintenance Yes No Clear access below box to remove bottom access panel for easy maintenance Yes No Metal to metal connections eliminated to prevent noise problems 5 No Yes All shipping and intallation materials are removed No Yes Box openings temporarily sealed to maintain system cleanliness "No" Responses Reason for "No"

Place Sticker Here

F16, 3

	Parallel Fan Powered VAV Terminal w/ heat # Connecting Ductwork	_ [Fill in T	<b>.</b>
	[fill in box number]		
Instru	octions: Step 1: Circle Yes or No, or fill in with requested information.  Step 2: Explain all "No" responses at the bottom of the card.  Step 3: Attach bar code sticker from equipment when finished, return card to your Fiel	d Supervisor.	
tem		Respo	nse
	Balancing damper present on inlet duct	Yes	No
2	1 1/2 diameters of straight ductwork installed prior to VAV box damper	Yes	No
	Ductwork free of transitions for at least 36"	Yes	No
4	Maintainable items (actuators, dampers, sensors, etc.) are accessible for easy maintenance	Yes	No
5	Flexible connector (vibration isolator) installed on inlet duct to avoid noise problems from metal to metal contact	Yes	No
6	Flex duct is installed in a way that avoids formind kinks on both inlet and outlet ductwork	Yes	No

	Parallel Fan Powered VAV-Terminal w/ heat #		~a1
	Piping Installation		
	[fill in box number]		
Instr	uctions: Step 1: Circle Yes or No, or fill in with requested information.		
	Step 2: Explain all "No" responses at the bottom of the card.		
	Step 3: Attach bar code sticker from equipment when finished, return card to your	Field Supervisor.	
tem	<u> </u>	Resp	onse
1	Piping is fully supported	Yes	No
2	Control valve and maintainable items are accessible	Yes	No
3	The following components are installed, from supply line to return line:	Yes	No
4	Ball valve		
5	Union-Coil-Union		
6	Manual air vent .		
7	Pete's Plug		
8	2-way automatic control valve		
9	Manual drain valve		
10	Manual flow meter valve		
			ı
No"	Responses		
It	em Reason for "No"		
	Place	Sticker Here	

	Parallel Fan Powered VAV Terminal w/ heat #	[Fill in T	•
	Controls Installation		
	[fill in box number]		
nstru	actions: Step 1: Circle Yes or No, or fill in with requested information.  Step 2: Explain all "No" responses at the bottom of the card.  Step 3: Attach bar code sticker from equipment when finished, return card to your F	ield Supervisor.	
		Respo	onse
em			
em 1	Point-to-point connections of control wiring verified	Yes	No
em 1 2		Yes Yes	No No
1 2	Point-to-point connections of control wiring verified  Temperature sensor calibration verified  Central system accurately represents conditions of VAV box		
1 2 3	Temperature sensor calibration verified  Central system accurately represents conditions of VAV box	Yes	No
1 2 3	Temperature sensor calibration verified  Central system accurately represents conditions of VAV box  Responses	Yes	No
1 2 3	Temperature sensor calibration verified  Central system accurately represents conditions of VAV box	Yes	No

#### Parallei Fan Powered VAV Terminal w/ heat # \_\_\_\_\_ [Fill in Tag #] **Electrical** [fill in box number] Instructions: Step 1: Circle Yes or No, or fill in with requested information. Step 2: Explain all "No" responses at the bottom of the card. Step 3: Attach bar code sticker from equipment when finished, return card to your Field Supervisor. Response Item Yes No Local disconnect installed in accessible location Yes No Variable speed selector switch is operational Yes No Motor rotation in proper direction No Yes 4 P.E. switch is operational "No" Responses Reason for "No" Item Place Sticker Here

F16. 7

Controls Sta	Controls Start-up					
001111013 011	пс-ар		•	VAV A-4		
1. Cooling/he		yes / no				
2. Warm-up/o	cool-down	n sequence of control correct		yes / no		
3. Unoccupie	d sequer	nce of control correct		yes / no		
<u></u>						
"No"	Item	Reason for "No"	Item	コ ニ		
Responses:						
	L					
		***************************************				

F16.8

Parallel F	an Pov	vered VAV Terminal w/ heat Contrac	tor Book		
TAB			7		
			VAV A-4		
1. Modifying	unit/syste	em settings through temperature sensor working	yes / no		
2. Airflow ser	sor calib	ration verified	yes / no		
3. Minimum a	3. Minimum airflow, cfm (design/measured)				
4. Maximum	Maximum airflow, cfm (design/measured)				
"No" Responses:	Item	Reason for "No"			
		,			
		Place Sticker Here	:		

VAV Terminal w/ heat
VAV A-4
Controls Start-up

VAV Terminal w/ heat VAV A-4 TAB

VAV Terminal w/ heat VAV A-4 Delivery Book

VAV Terminal w/ heat VAV A-4 Hanging

VAV Terminal w/ heat VAV A-4 Connecting Ductwork

VAV Terminal w/ heat VAV A-4 Piping Installation

VAV Terminal w/ heat VAV A-4 Controls Installation

VAV Terminal w/ heat VAV A-4 Electrical

	Piping Installation Date:		
Instructions	: Step 1: Circle Yes or No, or fill in with requested information.		
	Step 2: Explain all "No" responses at the bottom of the card.		
	Step 3: Describe work completed today and return card to your Field Supervisor.		
Iter	Task Description	Res	oonse
1	Piping is clean and free of damage prior to installation	Yes	No
	Maximum support spacing is according to table on back, or closer as necessary	Yes	No
<u> </u>	All connections meet specification requirements	Yes	No
4	All equipment requiring maintenance is accessible (valves, junction boxes, etc.)	Yes	No
5	All pipe openings temporary sealed to maintain duct system cleanliness	Yes	No
6	Record drawings have been updated to reflect any changes made	Yes	No
"No" Respo	nses		
Ite	Reason for "No" Briefly Detail Worl	k Comp	leted Toda

	Ductwork Installation Date: [fill in current date]		
9	Step 1: Circle Yes or No, or fill in with requested information.  Step 2: Explain all "No" responses at the bottom of the card.  Step 3: Describe work completed today and return card to your Field Supervisor.		
Item	Task Description	Resp	onse
1	Ductwork is clean and free of damage prior to installation	Yes	No
2	There are supports every 6 feet, or less as required	Yes	No
3	All latitudinal and longitudinal joints are sealed (<1% leakage required)	Yes	No
4	All equipment requiring maintenance is accessible (valves, junction boxes, etc.)	Yes	No
5	All duct openings temporary sealed to maintain duct system cleanliness	Yes	No
6	Record drawings have been updated to reflect any changes made	Yes	No
Respons		k Comp	leted 1

## **VAV Terminal Construction Checklist**

## **XYZ Corporate Headquarters Equipment Number: VAV A-1**

## 1) Model Verification

A	Data to Verify:	Specified	Submitted	Installed		d
	Manufacturer					
	Model					
	CFM (Max/Min)	1	1		1	
	Serial Number					
	Inlet Diameter, inches					
	Heating MBH/gpm					<del></del>
	Fan Power, hp					
	Total Static Pressure, psig					
2) I The	Pre-Installation Checks following must be completed up	on delivery of equipment to	the work-site.	Contractor	Initials	ંફ્ટ
	Physical Checks			Mechanical		
Α	There is no physical damag	e to the box		yes / no	w	
	The air openings to the box		astic	yes / no	•	

## 2) Pre-Installation Checks

Γ		Contractor	Initials	\$ (\$ C   1   2
A	Physical Checks	Mechanical		
	There is no physical damage to the box	yes / no		
	The air openings to the box are sealed with durable plastic	yes / no	•	
	The airflow sensing tubing is plugged	yes / no		
	The local disconnect is in the proper location	yes / no		
	The enclosure for the DDC control panel is in the proper location	yes / no		
	The grommets for the airflow sensing tubing are secure	yes / no		
	Unit tags affixed	yes / no		
В	Component Verification	Mechanical		
	Manufacturer's ratings are readable	yes / no		
	Manufacturer's ratings are accurate	yes / no		

### 3) Physical Installation Checks

The following items need to be verified during installation. Fill in blanks with a checkmark, specific information, or circle "yes" or "no". For any negative responses, complete section 4.

۲-	yes	or "no". For any negative responses, complete section 4.			Constitution of the last of th
L			Contractor	Initials	974
	A	Hanging of Box	Mechanical		
		Unit, damper, and air valve tags affixed	yes / no		
١		Unit secured as required in specifications	yes / no		
1		Adequate clearance around controls for O&M			
1		6" clearance in front of air valve for travel of inner valve rod	yes / no		
		1 1/2 duct diameters before the air valve	yes / no		
l		No duct transitions upstream of box for 30"	yes / no		
		No obstructions below box to remove bottom access panel	yes / no		
		Vibration isolators in good condition	yes / no		
		No metal to metal connections to cause noise problems	yes / no		
		Box properly labeled (box tag easy to see)	yes / no		
	В	Ductwork - Primary Air Inlet	Mechanical		
		Primary ductwork all hard or maximum flex duct length of 1 foot	yes / no		
		All inlet elbows long radius and no kinks in flex duct	yes / no		
à		1 1/2 duct diameters prior to air valve	yes / no		
-		No transitions upstream for at least 36"	yes / no		
3		Record drawings accurate	yes / no		
		Vibration isolator if flex duct is not used	yes / no		
		Does not interfere with accessibility	yes / no		
	С	Ductwork - Outlet	Mechanical	`	
l		Vibration isolator in place with no holes	yes / no		
		No kinks in flex duct	yes / no	•	
		Record drawings accurate	yes / no		
Γ	D	Controls	Controls		
		Control wiring hooked up	yes / no		
		Temperature sensor hooked up	yes / no		
		Communication with central system	yes / no		
		Temperature sensor calibrated	yes / no		
		Cooling sequence of control correct (should be attached)	yes / no		
		Heating sequence of control correct (should be attached)	yes / no		
		Warm-up sequence of control correct (should be attached)	yes / no		
		Cool down sequence of control correct (should be attached)	yes / no		
		Unoccupied sequence of control correct (should be attached)	yes / no		
L			<del> </del>		- The state of the

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E	Testing and Balancing (TAB)	TAB	
	Modifying unit / system settings throughout temperature sensor working	yes / no	
	Airflow sensor calibrated	yes / no	
	Actual min / max airflow (cfm)	1	

## 4) Negative Responses

For each negative response in sections 2 and 3, record the reason and resolution below. Attach extra sheets as necessary.

A	Item	Reason for Negative Response	Resolution

XYZXYZ Corporate Headquarters

**Return to Supervisor** 

Questions? Ask supervisor

3D

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